

CLAIMS

1. A process for extracting carotenoids from carotenoid-containing plant matter wherein the Brix in said plant matter is greater than 10° Brix, comprising of the following steps:
 - i. Mixing the plant matter with water to achieve Brix not greater than 10°.
 - ii. Crushing the mixture from stage (i) and separating the solids from the liquid to obtain two phases, pulp and serum.
 - iii. Extracting the pulp to obtain carotenoid-containing plant oleoresin.
2. A process according to claim 1 wherein the carotenoids are carotenes or xanthophylls.
3. A process according to claim 2 where in the carotenoids are selected from among a group comprising of lycopene, beta and alpha-carotene, lutein, astaxanthin, zeaxanthin, capsanthin, canthaxanthin, phytoene and phytofluene.
4. A process according to claim 1 wherein the plant matter is selected from among a group comprising of tomato paste, carrots and dried carrots.
5. A process according to claim 4 further comprising a stage of isolating the carotenoid from the oleoresin or extracting solvent.
6. A process according to claim 5 for obtaining lycopene, alpha-carotene and beta-carotene.
7. A process according to claim 1 wherein the plant matter is selected from among a group comprising of Wolfberry fruit (*Lycium barbarum*), corn and *Dunaliella* biomass.
8. A process according to claim 7 further comprising a stage of isolating a carotenoid xanthophyll.
9. A process according to claim 8 wherein the xanthophyll is obtained via saponification of the xanthophyll ester obtained in the oleoresin.

10. A process according to claim 1 wherein stage (i) is carried out in water at a temperature of about 70°C to 100°C.
11. A process according to claim 1 wherein the extracting stage is carried out in a solvent or mixture thereof having δ_H between 0.0 and 5.0 and δ_P between 0.0 and 10.
12. A process according to claim 11 wherein the solvent employed is selected from among a group comprising of ethyl acetate, iso-propanol, ethanol and acetone or mixtures thereof.
13. A process according to claim 1 wherein the extraction is carried out in several stages.
14. A process according to claim 1 comprising a further stage of concentrating the serum to obtain a liquid concentrate of the water miscible material of the plant matter.

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